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ABSTRACT

This book provides laboratory experiments to enhance any food science/botany curriculum. Chapter 1, "Introduction," presents a survey of the techniques used in plant biotechnology laboratory procedures. Chapter 2, "Micronutrition," discusses media and nutritional requirements for tissue culture studies. Chapter 3, "Sterile Seeds," focuses on the initiation of tissue culture material from sterilized seeds. Chapter 4, "Cloning," presents methods of obtaining shoot multiplication and root development. Chapter 5, "Embryogenesis I," explores the excision of the embryo from seeds and initiation of growth. Chapter 6, "Embryogenesis II," examines the development of embryos from somatic tissues. Chapter 7, "Androgenesis," discusses the development of a haploid plant from pollen. Chapter 8, "Cell Cultures," discusses the development of cells from plant parts and growth without differentiation. Chapter 9, "Protoplast Fusion," presents fusion of cells from unrelated plants. Chapter 10, "Protoplast-Organelle Fusion," explores the fusion of organelles such as the mitochondria or chromoplasts from one species into protoplasts or unrelated plant. Chapter 11, "Phytochemicals I," discusses the extraction of salicylic acid from various plants as an example of drug production. Chapter 12, "Phytochemicals II," discusses lectins-extraction and proof of lectins from *Pisum sativum*. The final chapter, "Plant DNA," discusses the extraction and purification of DNA from plant material. (ZWH)

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